

Name: _____

p1103: Factoring with box when $a = \text{prime}$ (v1)

Example

Use the box to factor $2x^2 - 9x - 18$.

Guess and check, based on factor pairs of -18 , until you find the pair that results in a linear coefficient of -9 after combining like terms.

*	x	
2x	$2x^2$	$-12x$
3	$3x$	-18

$2x^2 - 12x + 3x - 18$

Combine like terms.

$2x^2 - 9x - 18$

ANSWER: $(2x + 3)(x - 6)$

Question 1

Use the box to factor $3x^2 + 31x + 56$.

*	x	
3x	$3x^2$	
		56

ANSWER:

Question 2

Use the box to factor $5x^2 - 3x - 14$.

*	x	
5x	$5x^2$	
		-14

ANSWER:

Question 3

Use the box to factor $7x^2 - 61x + 40$.

*		

ANSWER:

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p1103: Factoring with box when $a = \text{prime}$ (v2)

Example

Use the box to factor $2x^2 - 9x - 18$.

Guess and check, based on factor pairs of -18 , until you find the pair that results in a linear coefficient of -9 after combining like terms.

*	x	
2x	$2x^2$	$-12x$
3	$3x$	-18

$2x^2 - 12x + 3x - 18$

Combine like terms.

$2x^2 - 9x - 18$

ANSWER: $(2x + 3)(x - 6)$

Question 1

Use the box to factor $3x^2 + 26x + 16$.

*	x	
3x	$3x^2$	
		16

ANSWER:

Question 2

Use the box to factor $7x^2 - 19x - 6$.

*	x	
7x	$7x^2$	
		-6

ANSWER:

Question 3

Use the box to factor $5x^2 - 14x + 8$.

*		

ANSWER:

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p1103: Factoring with box when $a = \text{prime}$ (v3)

Example

Use the box to factor $2x^2 - 9x - 18$.

Guess and check, based on factor pairs of -18 , until you find the pair that results in a linear coefficient of -9 after combining like terms.

*	x	
2x	$2x^2$	$-12x$
3	$3x$	-18

$2x^2 - 12x + 3x - 18$

Combine like terms.

$2x^2 - 9x - 18$

ANSWER: $(2x + 3)(x - 6)$

Question 1

Use the box to factor $3x^2 + 17x + 20$.

*	x	
3x	$3x^2$	
		20

ANSWER:

Question 2

Use the box to factor $5x^2 + 37x - 72$.

*	x	
5x	$5x^2$	
		-72

ANSWER:

Question 3

Use the box to factor $7x^2 - 72x + 81$.

*		

ANSWER:

Name: _____

p1103: Factoring with box when $a = \text{prime}$ (v4)

Example

Use the box to factor $2x^2 - 9x - 18$.

Guess and check, based on factor pairs of -18 , until you find the pair that results in a linear coefficient of -9 after combining like terms.

*	x	-6	
2x	$2x^2$	-12x	$2x^2 - 12x + 3x - 18$
3	3x	-18	Combine like terms.
			$2x^2 - 9x - 18$

ANSWER: $(2x + 3)(x - 6)$

Question 1

Use the box to factor $7x^2 + 47x + 30$.

*	x	
7x	$7x^2$	
		30

ANSWER:

Question 2

Use the box to factor $3x^2 - 14x - 49$.

*	x	
3x	$3x^2$	
		-49

ANSWER:

Question 3

Use the box to factor $5x^2 - 48x + 27$.

*		

ANSWER:

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p1103: Factoring with box when $a = \text{prime}$ (v5)

Example

Use the box to factor $2x^2 - 9x - 18$.

Guess and check, based on factor pairs of -18 , until you find the pair that results in a linear coefficient of -9 after combining like terms.

*	x	
2x	$2x^2$	$-12x$
3	$3x$	-18

$2x^2 - 12x + 3x - 18$

Combine like terms.

$2x^2 - 9x - 18$

ANSWER: $(2x + 3)(x - 6)$

Question 1

Use the box to factor $5x^2 + 39x + 28$.

*	x	
5x	$5x^2$	
		28

ANSWER:

Question 2

Use the box to factor $3x^2 + 16x - 64$.

*	x	
3x	$3x^2$	
		-64

ANSWER:

Question 3

Use the box to factor $7x^2 - 32x + 16$.

*		

ANSWER:

Name: _____

p1103: Factoring with box when $a = \text{prime}$ (v6)

Example

Use the box to factor $2x^2 - 9x - 18$.

Guess and check, based on factor pairs of -18 , until you find the pair that results in a linear coefficient of -9 after combining like terms.

*	x	
2x	$2x^2$	$-12x$
3	$3x$	-18

$2x^2 - 12x + 3x - 18$

Combine like terms.

$2x^2 - 9x - 18$

ANSWER: $(2x + 3)(x - 6)$

Question 1

Use the box to factor $3x^2 + 17x + 20$.

*	x	
3x	$3x^2$	
		20

ANSWER:

Question 2

Use the box to factor $5x^2 + 12x - 9$.

*	x	
5x	$5x^2$	
		-9

ANSWER:

Question 3

Use the box to factor $7x^2 - 52x + 21$.

*		

ANSWER:

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p1103: Factoring with box when $a = \text{prime}$ (v7)

Example

Use the box to factor $2x^2 - 9x - 18$.

Guess and check, based on factor pairs of -18 , until you find the pair that results in a linear coefficient of -9 after combining like terms.

*	x	
2x	$2x^2$	$-12x$
3	$3x$	-18

$2x^2 - 12x + 3x - 18$

Combine like terms.

$2x^2 - 9x - 18$

ANSWER: $(2x + 3)(x - 6)$

Question 1

Use the box to factor $5x^2 + 43x + 56$.

*	x	
5x	$5x^2$	
		56

ANSWER:

Question 2

Use the box to factor $3x^2 - 17x - 56$.

*	x	
3x	$3x^2$	
		-56

ANSWER:

Question 3

Use the box to factor $7x^2 - 37x + 36$.

*		

ANSWER:

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p1103: Factoring with box when $a = \text{prime}$ (v8)

Example

Use the box to factor $2x^2 - 9x - 18$.

Guess and check, based on factor pairs of -18 , until you find the pair that results in a linear coefficient of -9 after combining like terms.

*	x	
2x	$2x^2$	$-12x$
3	$3x$	-18

$2x^2 - 12x + 3x - 18$

Combine like terms.

$2x^2 - 9x - 18$

ANSWER: $(2x + 3)(x - 6)$

Question 1

Use the box to factor $7x^2 + 22x + 16$.

*	x	
7x	$7x^2$	
		16

ANSWER:

Question 2

Use the box to factor $5x^2 + 16x - 16$.

*	x	
5x	$5x^2$	
		-16

ANSWER:

Question 3

Use the box to factor $3x^2 - 28x + 49$.

*		

ANSWER:

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p1103: Factoring with box when $a = \text{prime}$ (v9)

Example

Use the box to factor $2x^2 - 9x - 18$.

Guess and check, based on factor pairs of -18 , until you find the pair that results in a linear coefficient of -9 after combining like terms.

*	x	
2x	$2x^2$	$-12x$
3	$3x$	-18

$2x^2 - 12x + 3x - 18$
 Combine like terms.
 $2x^2 - 9x - 18$

ANSWER: $(2x + 3)(x - 6)$

Question 1

Use the box to factor $7x^2 + 44x + 45$.

*	x	
7x	$7x^2$	
		45

ANSWER:

Question 2

Use the box to factor $3x^2 - 8x - 35$.

*	x	
3x	$3x^2$	
		-35

ANSWER:

Question 3

Use the box to factor $5x^2 - 21x + 18$.

*		

ANSWER:

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p1103: Factoring with box when $a = \text{prime}$ (v10)

Example

Use the box to factor $2x^2 - 9x - 18$.

Guess and check, based on factor pairs of -18 , until you find the pair that results in a linear coefficient of -9 after combining like terms.

*	x	
2x	$2x^2$	$-12x$
3	$3x$	-18

$2x^2 - 12x + 3x - 18$

Combine like terms.

$2x^2 - 9x - 18$

ANSWER: $(2x + 3)(x - 6)$

Question 1

Use the box to factor $7x^2 + 33x + 20$.

*	x	
7x	$7x^2$	
		20

ANSWER:

Question 2

Use the box to factor $3x^2 - x - 24$.

*	x	
3x	$3x^2$	
		-24

ANSWER:

Question 3

Use the box to factor $5x^2 - 23x + 24$.

*		

ANSWER:

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p1103: Factoring with box when $a = \text{prime}$ (v11)

Example

Use the box to factor $2x^2 - 9x - 18$.

Guess and check, based on factor pairs of -18 , until you find the pair that results in a linear coefficient of -9 after combining like terms.

*	x	
2x	$2x^2$	$-12x$
3	$3x$	-18

$2x^2 - 12x + 3x - 18$

Combine like terms.

$2x^2 - 9x - 18$

ANSWER: $(2x + 3)(x - 6)$

Question 1

Use the box to factor $5x^2 + 34x + 45$.

*	x	
5x	$5x^2$	
		45

ANSWER:

Question 2

Use the box to factor $7x^2 - 43x - 42$.

*	x	
7x	$7x^2$	
		-42

ANSWER:

Question 3

Use the box to factor $3x^2 - 28x + 49$.

*		

ANSWER:

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p1103: Factoring with box when $a = \text{prime}$ (v12)

Example

Use the box to factor $2x^2 - 9x - 18$.

Guess and check, based on factor pairs of -18 , until you find the pair that results in a linear coefficient of -9 after combining like terms.

*	x	
2x	$2x^2$	$-12x$
3	$3x$	-18

$2x^2 - 12x + 3x - 18$
 Combine like terms.
 $2x^2 - 9x - 18$

ANSWER: $(2x + 3)(x - 6)$

Question 1

Use the box to factor $5x^2 + 34x + 24$.

*	x	
5x	$5x^2$	
		24

ANSWER:

Question 2

Use the box to factor $7x^2 + 60x - 27$.

*	x	
7x	$7x^2$	
		-27

ANSWER:

Question 3

Use the box to factor $3x^2 - 13x + 12$.

*		

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p1103: Factoring with box when $a = \text{prime}$ (v13)

Example

Use the box to factor $2x^2 - 9x - 18$.

Guess and check, based on factor pairs of -18 , until you find the pair that results in a linear coefficient of -9 after combining like terms.

*	x	
2x	$2x^2$	$-12x$
3	$3x$	-18

$2x^2 - 12x + 3x - 18$
 Combine like terms.
 $2x^2 - 9x - 18$

ANSWER: $(2x + 3)(x - 6)$

Question 1

Use the box to factor $7x^2 + 41x + 30$.

*	x	
7x	$7x^2$	
		30

ANSWER:

Question 2

Use the box to factor $5x^2 - 6x - 8$.

*	x	
5x	$5x^2$	
		-8

ANSWER:

Question 3

Use the box to factor $3x^2 - 32x + 64$.

*		

ANSWER:

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p1103: Factoring with box when $a = \text{prime}$ (v14)

Example

Use the box to factor $2x^2 - 9x - 18$.

Guess and check, based on factor pairs of -18 , until you find the pair that results in a linear coefficient of -9 after combining like terms.

*	x	
2x	$2x^2$	$-12x$
3	$3x$	-18

$2x^2 - 12x + 3x - 18$
 Combine like terms.
 $2x^2 - 9x - 18$

ANSWER: $(2x + 3)(x - 6)$

Question 1

Use the box to factor $3x^2 + 31x + 36$.

*	x	
3x	$3x^2$	
		36

ANSWER:

Question 2

Use the box to factor $7x^2 - 12x - 4$.

*	x	
7x	$7x^2$	
		-4

ANSWER:

Question 3

Use the box to factor $5x^2 - 29x + 20$.

*		

ANSWER:

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p1103: Factoring with box when $a = \text{prime}$ (v15)

Example

Use the box to factor $2x^2 - 9x - 18$.

Guess and check, based on factor pairs of -18 , until you find the pair that results in a linear coefficient of -9 after combining like terms.

*	x	
2x	$2x^2$	$-12x$
3	$3x$	-18

$2x^2 - 12x + 3x - 18$

Combine like terms.

$2x^2 - 9x - 18$

ANSWER: $(2x + 3)(x - 6)$

Question 1

Use the box to factor $3x^2 + 26x + 16$.

*	x	
3x	$3x^2$	
		16

ANSWER:

Question 2

Use the box to factor $7x^2 + 33x - 10$.

*	x	
7x	$7x^2$	
		-10

ANSWER:

Question 3

Use the box to factor $5x^2 - 29x + 20$.

*		

ANSWER:

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p1103: Factoring with box when $a = \text{prime}$ (v16)

Example

Use the box to factor $2x^2 - 9x - 18$.

Guess and check, based on factor pairs of -18 , until you find the pair that results in a linear coefficient of -9 after combining like terms.

*	x	
2x	$2x^2$	$-12x$
3	$3x$	-18

$2x^2 - 12x + 3x - 18$

Combine like terms.

$2x^2 - 9x - 18$

ANSWER: $(2x + 3)(x - 6)$

Question 1

Use the box to factor $3x^2 + 23x + 40$.

*	x	
3x	$3x^2$	
		40

ANSWER:

Question 2

Use the box to factor $7x^2 - 31x - 20$.

*	x	
7x	$7x^2$	
		-20

ANSWER:

Question 3

Use the box to factor $5x^2 - 19x + 18$.

*		

ANSWER:

Name: _____

p1103: Factoring with box when $a = \text{prime}$ (v17)

Example

Use the box to factor $2x^2 - 9x - 18$.

Guess and check, based on factor pairs of -18 , until you find the pair that results in a linear coefficient of -9 after combining like terms.

*	x	
2x	$2x^2$	$-12x$
3	$3x$	-18

$2x^2 - 12x + 3x - 18$
 Combine like terms.
 $2x^2 - 9x - 18$

ANSWER: $(2x + 3)(x - 6)$

Question 1

Use the box to factor $5x^2 + 33x + 40$.

*	x	
5x	$5x^2$	
		40

ANSWER:

Question 2

Use the box to factor $7x^2 + 26x - 45$.

*	x	
7x	$7x^2$	
		-45

ANSWER:

Question 3

Use the box to factor $3x^2 - 19x + 20$.

*		

ANSWER:

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p1103: Factoring with box when $a = \text{prime}$ (v18)

Example

Use the box to factor $2x^2 - 9x - 18$.

Guess and check, based on factor pairs of -18 , until you find the pair that results in a linear coefficient of -9 after combining like terms.

*	x	
2x	$2x^2$	$-12x$
3	$3x$	-18

$2x^2 - 12x + 3x - 18$
 Combine like terms.
 $2x^2 - 9x - 18$

ANSWER: $(2x + 3)(x - 6)$

Question 1

Use the box to factor $5x^2 + 14x + 8$.

*	x	
5x	$5x^2$	
		8

ANSWER:

Question 2

Use the box to factor $7x^2 - 47x - 14$.

*	x	
7x	$7x^2$	
		-14

ANSWER:

Question 3

Use the box to factor $3x^2 - 11x + 10$.

*		

ANSWER:

Name: _____

p1103: Factoring with box when $a = \text{prime}$ (v19)

Example

Use the box to factor $2x^2 - 9x - 18$.

Guess and check, based on factor pairs of -18 , until you find the pair that results in a linear coefficient of -9 after combining like terms.

*	x	
		-6
$2x$	$2x^2$	$-12x$
3	$3x$	-18

$2x^2 - 12x + 3x - 18$
 Combine like terms.
 $2x^2 - 9x - 18$

ANSWER: $(2x + 3)(x - 6)$

Question 1

Use the box to factor $3x^2 + 29x + 40$.

*	x	
$3x$	$3x^2$	
		40

ANSWER:

Question 2

Use the box to factor $5x^2 - 36x - 81$.

*	x	
5x	$5x^2$	
		-81

ANSWER:

Question 3

Use the box to factor $7x^2 - 64x + 64$.

*		

ANSWER:

Name: _____

p1103: Factoring with box when $a = \text{prime}$ (v20)

Example

Use the box to factor $2x^2 - 9x - 18$.

Guess and check, based on factor pairs of -18 , until you find the pair that results in a linear coefficient of -9 after combining like terms.

*	x	
2x	$2x^2$	$-12x$
3	$3x$	-18

$2x^2 - 12x + 3x - 18$

Combine like terms.

$2x^2 - 9x - 18$

ANSWER: $(2x + 3)(x - 6)$

Question 1

Use the box to factor $5x^2 + 43x + 24$.

*	x	
5x	$5x^2$	
		24

ANSWER:

Question 2

Use the box to factor $3x^2 + 11x - 42$.

*	x	
3x	$3x^2$	
		-42

ANSWER:

Question 3

Use the box to factor $7x^2 - 64x + 64$.

*		

ANSWER: